

Name(s) of Risk Team Members: J. Maraviglia, G. Votruba, P. Bergh, J. Scott				Point Value → Parameter ↓		1		2		3		4		5			
Job Title: Mixed and Radioactive Waste Handling				Frequency (B)		≤once/year		≤once/month		≤once/week		≤once/shift		>once/shift			
Job Number or Job Identifier: JRA 15-05				Severity (C)		First Aid Only		Medical Treatment		Lost Time		Partial Disability		Death or Permanent Disability			
Job Description: Handling of mixed and radioactive wastes at C-AD from identification to transport to BNL Waste Management.				Likelihood (D)		Highly Unlikely		Unlikely		Possible		Probable		Multiple			
Training and Procedures List (optional): OPM 8.20, Procedure for handling and Disposal of Hazardous Waste OPM 8.20.e, Control of Samples and Containers OPM 8.20.2, Radioactive Waste Disposal Training: RW-1, Contamination Worker, C-AD Access, HazCom, Rad Waste Generator, Haz Waste Generator, Haz Mat Transport, Back Safety, Fork Truck, Crane Operator, Rigging																	
Approved by: <i>E. Lessard</i> Date: January 27, 2005 Rev. #: 0																	
Stressors (if applicable, please list all): Air temperature, moisture, working alone				Reason for Revision (if applicable):						Comments:							
				Before Additional Controls										After Additional Controls			
Job Step / Task	Hazard	Control(s)	Stressors Y/N	# of People A	Frequency B	Severity C	Likelihood D	Risk* AxBxCxD	Control(s) Added to Reduce Risk	Stressors Y/N	# of People A	Frequency B	Severity C	Likelihood D	Risk* AxBxCxD	% Risk Reduction	
Identify And Declare Material Waste	Radiation exposure	Posting, labeling, PPE, Tier 1 inspections, training, procedures, work planning, dosimeters, radiation surveys, RWP	N	2	3	1	2	12									
Identify And Declare Material Waste	Hazardous material exposure	Posting, labeling, PPE, Tier 1 inspections, training, procedures, MSDS, work planning, IH dosimeters, IH surveys, EMT, CMS	N	2	3	1	2	12									
Survey And Tag Waste	Radiation exposure	Posting, labeling, PPE, Tier 1 inspections, training, procedures, work planning, dosimeters, radiation surveys, RWP, done by RCT	Y	2	3	1	2	12									
Survey And Tag Waste	Falls to lower level, such as falling from a ladder or over a railing	Posting, training, PPE, use of ladders and scaffolding, fall protection	Y	2	2	3	2	24									
Transport Wastes To Waste Area - Manual	Overexertion – injuries caused by excessive lifting, pushing, pulling, holding, carrying or throwing of an object	Training, procedures, work planning, dollies, specific back injury prevention training, load lift limit, barrel carts, lift gate trucks, PE Riggers if required, pallet jack	Y	2	3	3	2	36									

Transport Wastes To Waste Area – Fork Truck	Falling objects, dropped load, pinch points	Training, daily fork truck inspections, PPE, seat belts, Tier 1 inspections, PE inspections and maintenance, required items strapped to mast, load weight and center of gravity known, work planning, postings, certified riggers available, escort for transport if required, road surface maintenance, RCT coverage as required, barrel lift for fork lift	Y	2	3	4	2	48								
Transport Wastes To Waste Area – Fork Truck	Highway accident, tip over	Training, daily fork truck inspections, PPE, seat belts, PE inspections and maintenance, required items strapped to mast, load weight and center of gravity known, work planning, postings, certified riggers available, escort for transport if required, road surface maintenance, backing-up alarms	Y	2	3	4	2	48								
Moving Waste Items With Cranes	Being struck by an object, such as a tool falling on a worker from above	Training, daily crane inspections prior to use, PE crane maintenance, PPE, certified rigging equipment, Tier 1, yearly rigging inspections, load weights and center of gravity known prior to lift, procedures, qualified riggers if required, critical lift and engineered lift requirements and reviews, warning alarms, postings, work planning, load testing, barriers, RCTs	Y	2	2	5	2	40								
Mobile Crane Use	Being struck by an object, such as a tool falling on a worker from above	Same as above except certified HEMO operators and riggers only, seat belts, PE Rigging Supervisor review, RCTs	Y	2	2	5	2	40								
Mobile Crane Use	Highway accident, tip-over	Same as above, Outriggers on crane, alarms and indications in cab. Escort for movement, seat belts	Y	2	2	4	2	32								
Waste Material Handling	Radiation exposure	Posting, labeling, PPE, training, procedures, work planning, dosimeters, radiation surveys, RWP, RWMB, qualified personnel, locked and fenced area with limited access, use of certified containers and drums	Y	2	4	1	2	16								
Waste Material Handling	Hazardous material exposure	Posting, labeling, PPE, Tier 1 inspections, training, procedures, MSDS, work planning, IH dosimeters, IH surveys, qualified personnel, locked and fenced area with limited access, use of certified containers and drums, EMT, CMS	Y	2	3	2	2	24								
Waste Disassembly And Segregation	Radiation exposure	PPE, work planning, RWP, process knowledge, locked and fenced area with limited access	Y	2	3	1	2	12								
Waste Disassembly And Segregation	Hazardous material exposure	PPE, work planning, process knowledge, MSDS, qualified personnel, locked and fenced area with limited access	Y	2	3	2	3	36								
Waste Disassembly And Segregation	Hand tool hazards – pinch, cuts, etc.	PPE, qualified PPE, qualified workers, work planning	Y	2	3	2	3	36								
Waste Disassembly And Segregation	Falls on same level	Work planning, locked and fenced area with limited access	Y	2	3	2	3	36								

Waste Packaging	Overexertion – injuries caused by excessive lifting, pushing, pulling, holding, carrying or throwing of an object	Work planning, guards, procedures, PPE, Riggers as required, RCT coverage	Y	2	3	2	3	36								
Waste Sampling	Radiation exposure	Posting, labeling, PPE, training, procedures, work planning, dosimetry, radiation surveys, RWP, qualified personnel, locked and fenced area with limited access	Y	2	3	1	3	18								
Waste Sampling	Hazardous material exposure	Posting, labeling, PPE, training, procedures, MSDS, work planning, IH dosimetry, IH surveys, qualified personnel, locked and fenced area with limited access, EMT	Y	2	3	2	3	36								
Waste Labeling	Radiation exposure	Posting, labeling, PPE, training, procedures, work planning, dosimetry, radiation surveys, RWP, qualified personnel, locked and fenced area with limited access	Y	2	3	1	2	12								
Transport Of Waste To WMD Facility	Radiation exposure	Posting, labeling, PPE, training, procedures, work planning, dosimetry, radiation surveys, RWP, qualified personnel, locked and fenced area with limited access	Y	2	2	1	2	8								
Transport Of Waste To WMD Facility	Highway accident	Training, qualified drivers, EMT	Y	2	2	3	3	36								
Bulb Crushing	Electrical shock	Training, procedures, GFCI, EMT, work planning	Y	2	2	3	2	24								
Bulb Crushing	Mercury exposure	HEPA/charcoal filters, yearly IH air samples, 5 year filter replacements, work planning	Y	2	2	3	2	24								
Bulb Crushing	Being struck by an object, such as a tool falling on a worker from above	Procedures, training, crusher guarding, PPE, work planning, EMT	Y	2	2	3	2	24								
Bulb Crushing	Sharp objects	Procedures, training, PPE, EMT, work planning	Y	2	2	3	3	36								
Bulb Crushing	Bodily reaction – injuries resulting from bending, climbing, loss of balance and slipping without falling	Work planning, back training, proper shoes	Y	2	2	1	2	8								
Bulb Crushing	Repetitive motion	Work planning	Y	2	2	1	2	8								
Bulb Crushing	Becoming caught in or compressed by equipment	Guarding, work planning, procedure	Y	2	2	4	2	32								
Cutting Waste Drums	Puncture and cuts	PPE, personal communication device, supervisor communication, work planning, maintenance of equipment, EMT	Y	2	2	3	3	36								

Cutting Waste Drums	Bodily reaction – injuries resulting from bending, climbing, loss of balance and slipping without falling	Work planning, back training, proper shoes, proper tool	Y	2	2	1	2	8								
Cutting Waste Drums	Repetitive motion	Work planning	Y	2	2	1	2	8								
Further Description of Controls Added to Reduce Risk:																
*Risk:	0 to 20	21 to 40	41-60			61 to 80			81 or greater							
	Negligible	Acceptable	Moderate			Substantial			Intolerable							